

CLAIMS

WE CLAIM:

1. A communication network having a plurality of computing devices at least one of which is a mobile terminal device configured with a wireless transceiver, said communication network comprising:

5 a plurality of access devices being arranged in a spanning tree configuration to support communications among the plurality of computing devices; and

10 at least one of said plurality of access devices being configured to selectively intercept, store and forward requested data, thereby reducing traffic on the communication network.

2. The communication network of claim 1 wherein at least one of said plurality of access devices being configured to selectively intercept and stores requested processing resources for future processing, thereby reducing traffic on the communication network.

3. The communication network of claim 2 wherein the processing resources perform the function of decoding signals representative of two-dimensional images captured by a two-dimensional code reading device.

4. The communication network of claim 1 wherein at least one of said plurality of access devices being configured to selectively intercept, store and forward requested program code, thereby reducing traffic on the communication network.

5. The communication network of claim 1 wherein the at least one of said plurality of access devices considers the cost of re-obtaining data before selecting which data to store.

6. The communication network of claim 1 wherein the at least one of said plurality of access devices considers the frequency that data is requested before selecting which data to store.

7. The communication network of claim 1 wherein the at least one of said plurality of access devices considers its available storage capacity before selecting which data to store.

8. The communication network of claim 1 wherein the at least one of said plurality of access devices considers the size of the data before selecting which data to store.

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9. The communication network of claim 1 wherein the at least one of said plurality of access devices selectively deletes stored data.

10. The communication network of claim 9 wherein the at least one of said plurality of access devices considers the cost to re-obtain the stored data before selecting what stored data to delete.

11. The communication network of claim 9 wherein the at least one of said plurality of access devices considers the frequency that the stored data is requested before selecting what stored data to delete.

12. A communication network having a mobile terminal device configured with a wireless transceiver, said communication network comprising:

a data source;

5 a plurality of access devices being arranged to provide a communication pathway between said mobile terminal device and said computing device; and

10 at least one of said plurality of access devices being configured to monitor communication traffic through the at least one of said plurality of access devices and to selectively store for future forwarding requested data so as

to shorten the communication pathway from the data to said mobile terminal device.

5 13. The communication network of claim 12 wherein at least one of said plurality of access devices being configured to monitor communication traffic through the at least one of said plurality of access devices and to selectively store for future processing requested processing resources so as to shorten the communication pathway from the processing resources to said mobile terminal device.

14. The communication network of claim 13 wherein the processing resources perform the function of decoding signals representative of two-dimensional images captured by a two-dimensional code reading device.

15. The communication network of claim 13 wherein the at least one of said plurality of access devices considers the cost of re- obtaining requested processing resources before selecting which processing resources to store.

16. The communication network of claim 13 wherein the at least one of said plurality of access devices considers the frequency that processing resources are requested before selecting which processing resources to store.

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17. The communication network of claim 13 wherein the at least one of said plurality of access devices considers its available storage capacity before selecting which processing resources to store.

18. The communication network of claim 13 wherein the at least one of said plurality of access devices considers the size of the processing resources before selecting which processing resources to store.

19. The communication network of claim 12 wherein at least one of said plurality of access devices being configured to monitor communication traffic through the at least one of said plurality of access devices and to selectively store for future forwarding requested program code so as to shorten the communication pathway from the program code to said mobile terminal device.

20. The communication network of claim 19 wherein the at least one of said plurality of access devices considers the cost of re- obtaining program code before selecting which program code to store.

21. The communication network of claim 19 wherein the at least one of said plurality of access devices considers

the frequency that program code is requested before selecting which program code to store.

22. The communication network of claim 19 wherein the at least one of said plurality of access devices considers its available storage capacity before selecting which program code to store.

23. The communication network of claim 19 wherein the at least one of said plurality of access devices considers the size of the program code before selecting which program code to store.

24. The communication network of claim 12 wherein the at least one of said plurality of access devices considers the cost of re-obtaining data before selecting which data to store.

25. The communication network of claim 12 wherein the at least one of said plurality of access devices considers the frequency that data is requested before selecting which data to store.

26. The communication network of claim 12 wherein the at least one of said plurality of access devices considers

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its available storage capacity before selecting which data to store.

27. The communication network of claim 12 wherein the at least one of said plurality of access devices considers the size of the data before selecting which data to store.

28. The communication network of claim 12 wherein the at least one of said plurality of access devices selectively deletes stored data.

29. The communication network of claim 28 wherein the at least one of said plurality of access devices considers the cost to re-obtain the stored data before selecting what stored data to delete.

30. The communication network of claim 28 wherein the at least one of said plurality of access devices considers the frequency that the stored data is requested before selecting what stored data to delete.

31. The communication network of claim 12 further comprising a processing resource device for performing processing remote from the mobile device.

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32. A communication network having at least one two-dimensional code reading device configured with a first wireless transceiver, said communication network comprising:

5 a plurality of access devices being arranged to maintain wireless communication with a two-dimensional code reading device;

10 at least one of said plurality of access devices comprising a second wireless transceiver for receiving signals representative of two-dimensional images captured by a two-dimensional code reading device, and a code processing circuit for decoding the received signal.

5 33. The communication network of claim 32 wherein another of said plurality of access devices comprises a code processing circuit for decoding received signals representative of two-dimensional images captured by a two-dimensional code reading device, said another of said plurality of access devices requesting processing resources for performing said decoding.

34. The communication network of claim 32 wherein the plurality of access devices are arranged in a spanning tree configuration.

35. The communication network of claim 32 wherein said code processing circuit of said at least one of said

plurality of access devices performs a decode algorithm to decode said received signals.

36. The communication network of claim 32 wherein said code processing circuit of said at least one of said plurality of access devices compares said received signals to stored image signals located in an image database to
5 decode said received signals.

37. The communication network of claim 32 wherein said code processing circuit of said at least one of said plurality of access devices performs a decode algorithm to decode said received signals, and, if unsuccessful, compares
5 said received signals to stored image signals located in an image database to decode said received signals.

38. The communication network of claim 32 wherein said code processing circuit of said at least one of said plurality of access devices compares said received signals to stored image signals located in an image database to
5 decode said received signals, and, if unable to find stored image signals which correspond to said received signals, performs a decode algorithm to decode said received signals.

39. The communication network of claim 36 wherein said code processing circuit of said at least one of said

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plurality of access devices updates said image database by
storing the received signals if the performance of the
5 decode algorithm is successful.

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~~38.~~ A processing device in a communication network,
said having at least one two-dimensional code reading device
configured with a first wireless transceiver, said
processing device comprising:

5 a second wireless transceiver for receiving signals
representative of two-dimensional images captured by a two-
dimensional code reading device;

a code processing circuit for decoding the signals
received from the two-dimensional code reading device; and

10 said code processing circuit delivering to the two-
dimensional code reading device via said second wireless
transceiver an indication of successful image decoding.

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~~39.~~ The processing device of claim 38 further
comprising an image database for storing signals
representative of two-dimensional images.

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~~40.~~ The communication network of claim 39 wherein said
code processing circuit of said processing device compares
said received signals to stored signals representative of
two-dimensional images located in the image database to
5 decode said received signals.

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~~41.~~ The communication network of claim 38 wherein said code processing circuit of said processing device performs a decode algorithm to decode said received signals.

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~~42.~~ The processing device of claim 38 further comprising an image database for storing signals representative of two-dimensional images, and wherein said code processing circuit of said processing device performs a decode algorithm to decode said received signals, and, if unsuccessful, compares said received signals to stored image signals located in the stored image database to decode said received signals.

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~~43.~~ The processing device of claim 38 further comprising an image database for storing signals representative of two-dimensional images, and wherein said code processing circuit of said at least one of said plurality of access devices compares said received signals to stored image signals located in the stored image database to decode said received signals, and, if unable to find stored image signals which correspond to said received signals, performs a decode algorithm to decode said received signals.

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44. The communication network of claim 43 wherein said code processing circuit of said processing device updates said image database by storing the received signals if the performance of the decode algorithm is successful.

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45. A communication network operating between a premises and a vehicle, comprising:

5 a data source located at a premises;
a terminal device within a vehicle;
a first communication link between said data source and said terminal device;

a vehicular network comprising a portable computing device and said terminal device;

10 said portable computing device and said terminal device communicating via a second communication link, said second communication link comprising a wireless communication link; and

15 said terminal device being configured to store data delivered from said data source, and, upon communication from said portable computing device, selectively forwarding the stored data to said portable computing device.

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46. The communication network of claim 45 wherein said terminal device monitors the flow of data to the portable computing device, and, based on such monitoring, said

terminal device selectively migrates data into local
storage.

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47. The communication network of claim 46 wherein said
terminal device monitors the flow of program code to the
portable computing device, and, based on such monitoring,
said terminal device selectively migrates program code into
local storage.

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48. The communication network of claim 46 wherein said
terminal device monitors processing requests from the
portable computing device, and, based on such monitoring,
said terminal device selectively migrates programming
resources into local storage.

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